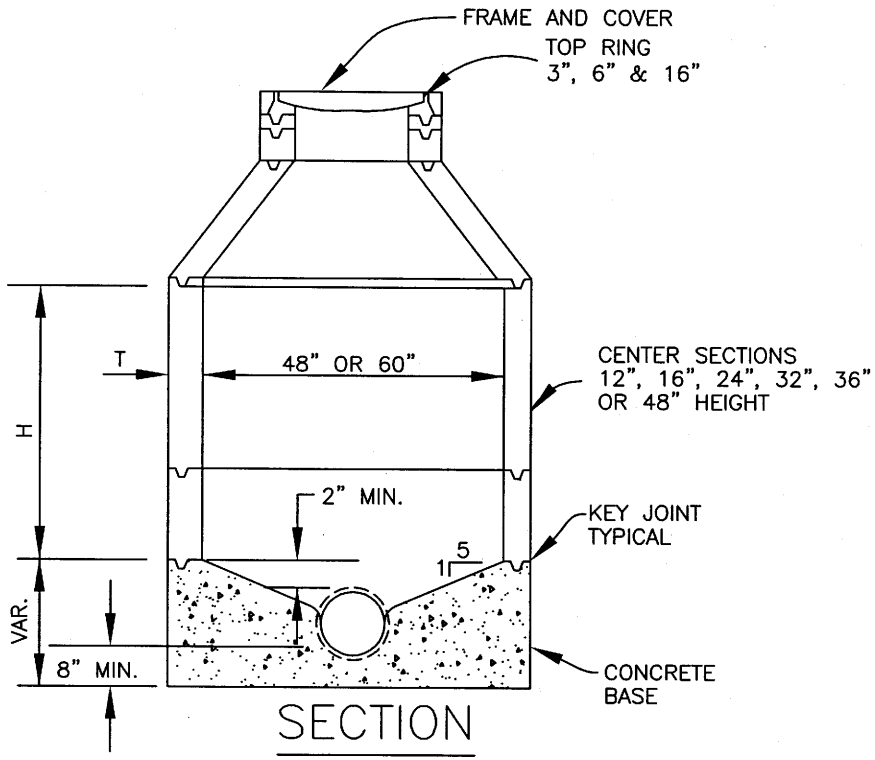
SANITARY SEWER

REVISED	DATE	APPROVED		CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR	2/5/07 DATE	TABLE OF CONTENTS	5–000.0–06



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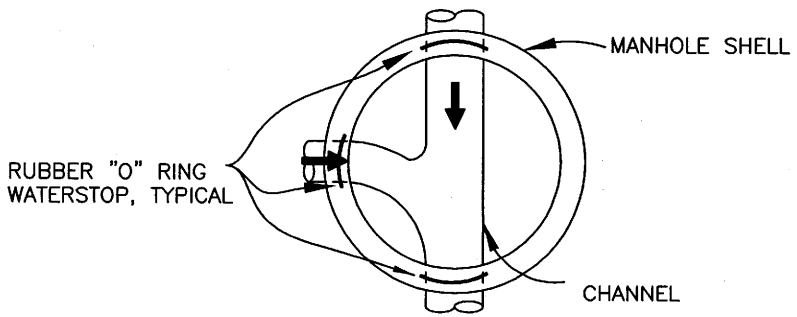
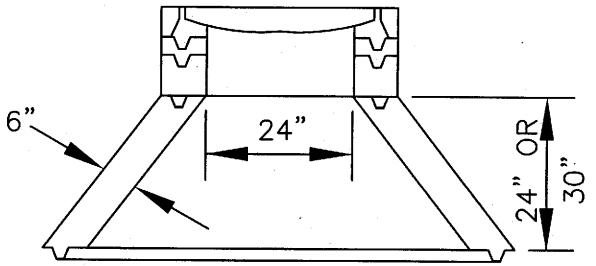


SECTIONAL PLAN



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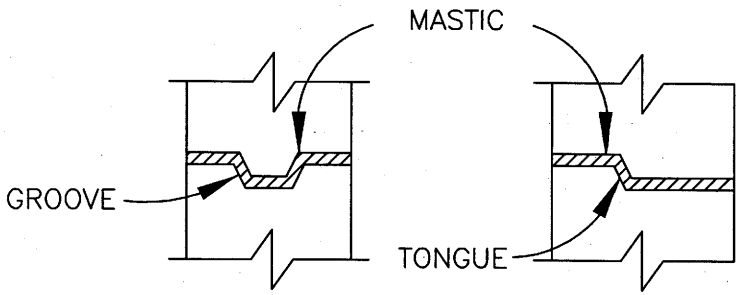


JOINT DETAILS

REVISED	DATE	APPROVED		CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		Anthony J. Nasr	2/5/07	PRECAST CONCRETE MANHOLE	5–001.0–06
		PUBLIC WORKS DIRECTOR	DATE		

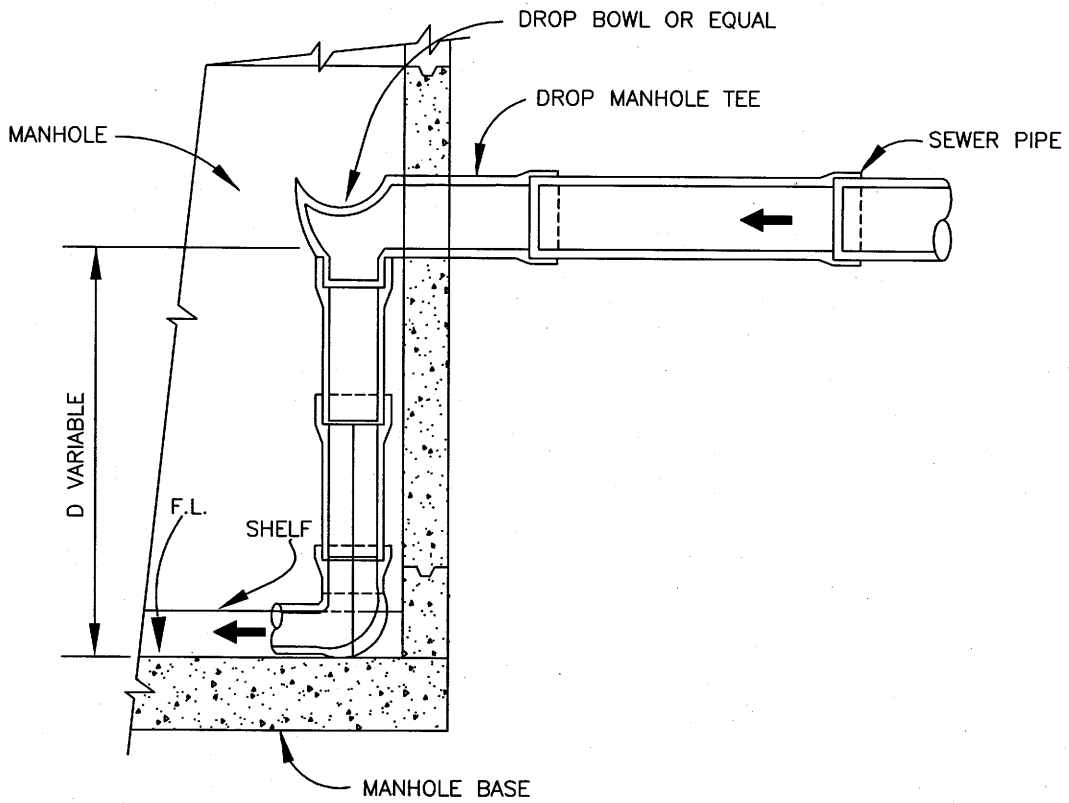
NOTES:

1. Pre–cast reinforced concrete manhole shall be in conformance with ASTM Designation C–478, of current issue.
2. Pre–cast sections to be of Class 560–C–3250 concrete per Standard Specifications for Public Works Construction (Green Book).
3. Cast in place base to be Class 560–C–3250 concrete per Standard Specifications for Public Works Construction, (Green Book) of a thickness 2–inch minimum above and 8–inch minimum below pipe outside diameter.
4. T–wall thickness shall be a minimum of 1/12 of largest manhole inside diameter.
5. Mortar joints on the inside shall be one part cement and two parts sand, uniform thickness not to exceed 3/8 inch, neatly finished at internal wall surface. Mastic shall be used for joints in shafting buildup, except grade rings, with mortar applied to the outsides of joints.
6. Frame and cover shall be Alhambra Foundry A–1254–X–6, or approved equal by engineer, lettered with the word "SEWER". Cover shall have a block radial tread pattern, sealed without bolt holes, and having a non–hinged lifting hook recessed in the cover.
7. Standard manhole size shall be 48–inch I.D. of riser, unless otherwise specified on plans. For sewer pipes larger than 18–inch, sewer manholes shall be 60–inches in diameter at the base, with a 30–inch frame and cover.
8. Concentric cones shall be used on all sewer manholes unless one of hte following conditions are present:
   A. Manholes with an I.D. of 60–inches or greater shall have eccentric cones.
   B. All manholes exceeding 5–feet in depth shall have eccentric cones.
9. Steps are not required unless otherwise specified by the Engineer.
10. Channel bottom may be formed using a continuous length of PVC plastic sewer pipe. No bends or wyes shall be used. Channel bottom shall not be formed with VCP.

REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE 2/5/07	PRECAST CONCRETE MANHOLE – NOTES	5–001.1–06

NOTES:

1. Connector pipe shall be of same diameter as sewer pipe.
2. See Standard Detail 5–001 for manhole notes.
3. Foundation for drop connection is to be poured integrally with manhole base.
4. All pipe and fittings shall be SDR–35 P.V.C. per ASTM 3034.
5. To be used on new construction or when external drop is not functioning properly.
6. Not recommended for use in areas with high Hydrogen Sulfide.



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REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE: 2/5/07	DROP SEWER CONNECTION	5–002.0–06

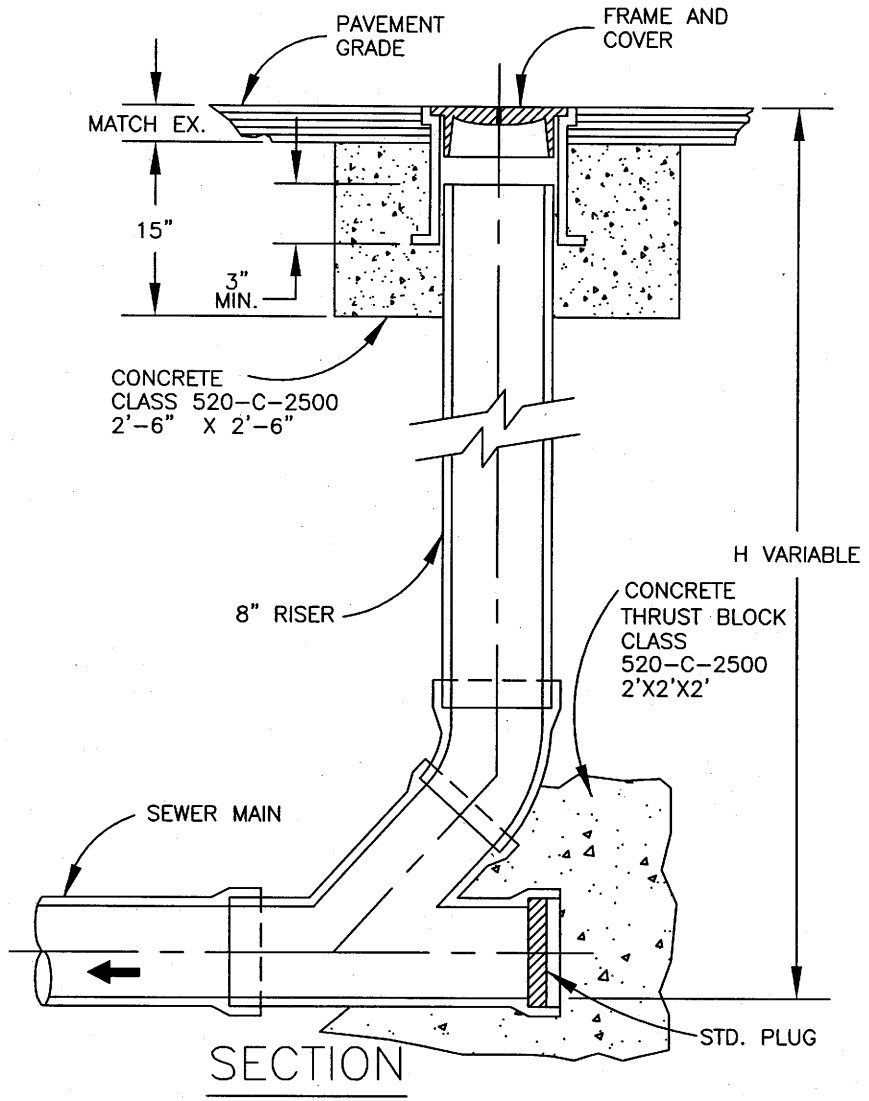
NOTES:

1. Frame and cover shall be Alhambra Foundry A–1240 or equal approved by Engineer.

2. Set frame and cover flush with pavement grade.

3. Cleanout larger than 8–inch shall be provided subject to the approval of the Engineer.

5. All pipe and fittings shall be SDR–35 P.V.C. per ASTM 3034.



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REVISED	DATE	APPROVED		CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		Anthony J Nasr PUBLIC WORKS DIRECTOR	2/5/07 DATE	CLEANOUT	5–003.0–06

GENERAL SEWER LATERAL NOTES:

1. Factory–fabricated wyes are required on all standard sewer lateral tap connections. Wyes shall point downstream and enter main at an angle of not less than 5–degrees and no more than 45–degrees off the vertical. Contact Water Resources Wastewater Collection System Supervisor for all sewer lateral tap installations. Allow a minimum of 5 working days for scheduling.

2. Sewer lateral pipe and fittings shall be Bell and Spigot SDR–35 PVC, HDPE SDR–17 or an approved equal by the City Engineer. Sewer lateral pipe shall have a minimum diameter of 4 inches, and a minimum slope of 2%. Grade shall be uniform from main to property line. Changes in grade of lateral shall be made using long–radius bends.

3. Top of curb shall be marked with an "S" directly over lateral. The "S" shall be stamped in new concrete or chiseled into existing concrete, and shall not be less than 3 inches tall, 2 inches wide and 3/16 inch deep.

4. The depth of the lateral at the property line shall be a minimum of 4 feet, without special approval.

5. Bedding and backfill for laterals shall meet the same requirements for sewer mains. See trench bedding and backfills standard details 7–001.0 and 7–001.1.

6. For water–sewer separation requirements see Standard Detail 7–003.1.

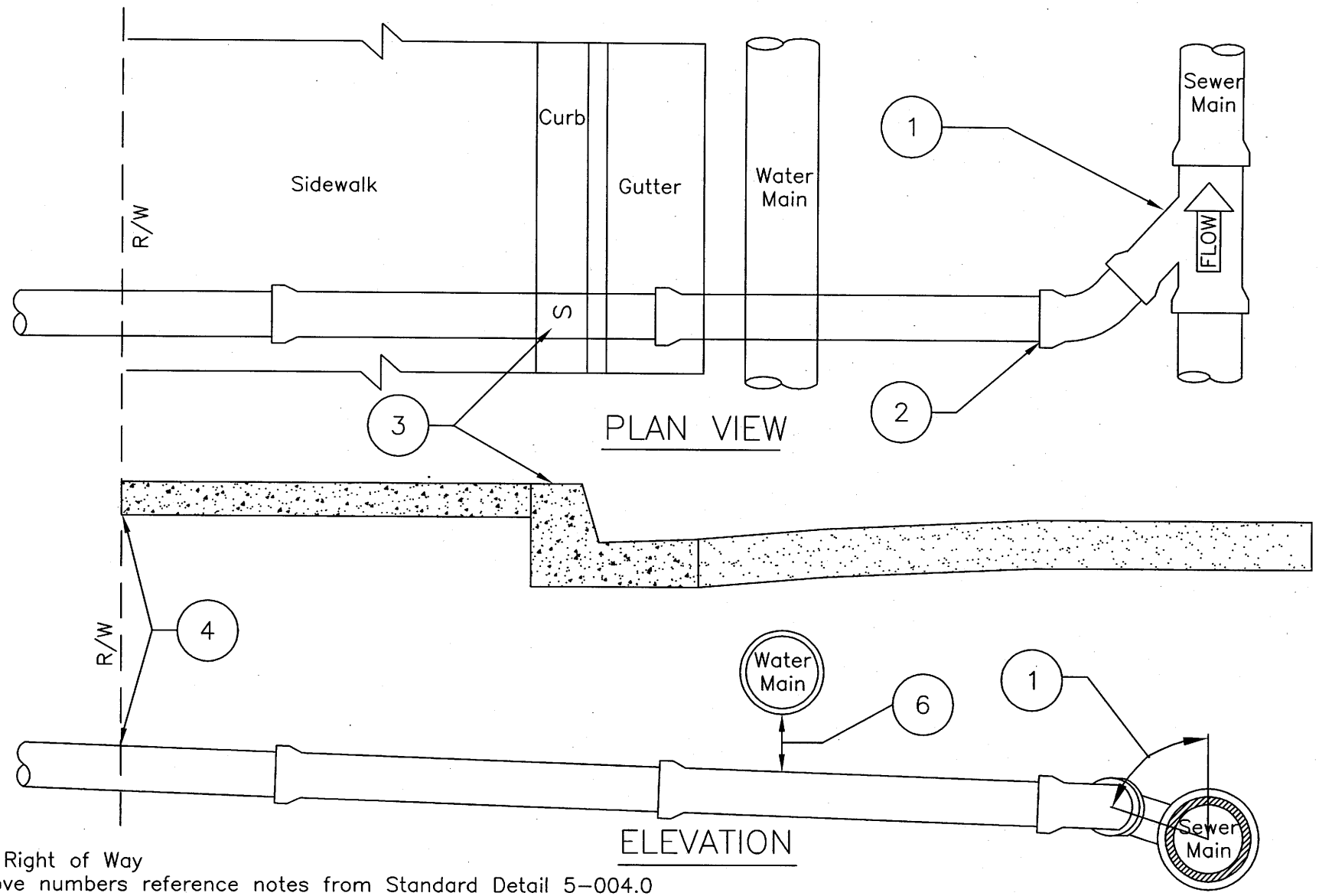
7. All Caulder Couplings shall be "Strong Backs", a band seal type coupling with an outside stainless steel shear ring.

8. When the depth of the sewer main is 12 feet or more, install a Chimney Sewer Lateral per Standard Detail 5–005.0.

9. All sewer lateral improvements shall require a permit from the City Public Works Department.

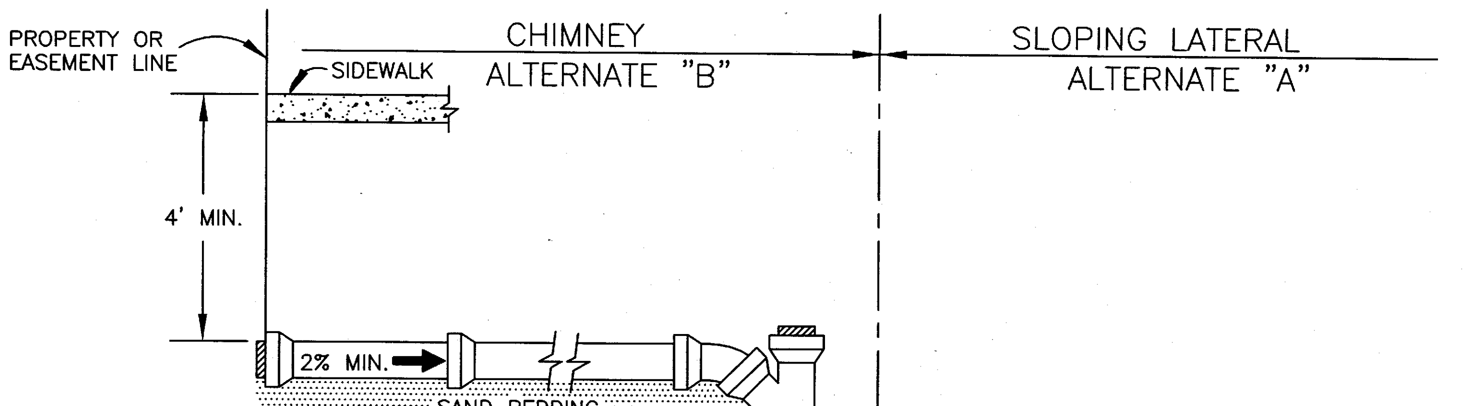
10. Sewer laterals are the responsiblitiy of the property owner all the way to the public sewer main, including the lateral wye connection, even through the public right of way.

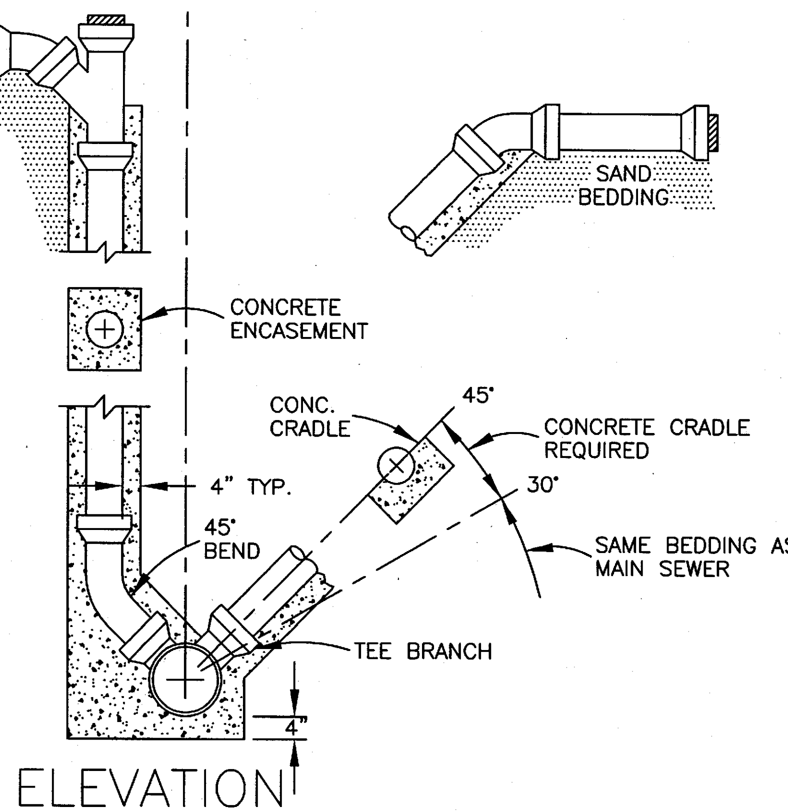
REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE: 2/5/07	SEWER LATERAL – NOTES	5–004.0–06



R/W = Right of Way
The above numbers reference notes from Standard Detail 5–004.0

REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE: 2/5/07	SEWER LATERAL – DETAIL	5–004.1–06





ELEVATION

NOTES:

1. Chimney shall be used when lateral slope exceeds 45 degree or depth of main sewer is 12 feet or more.

2. Chimney size: 4-inch for single dwelling, 6-inch for multiple dwelling; up to 4 laterals may feed on chimney through standard wye.

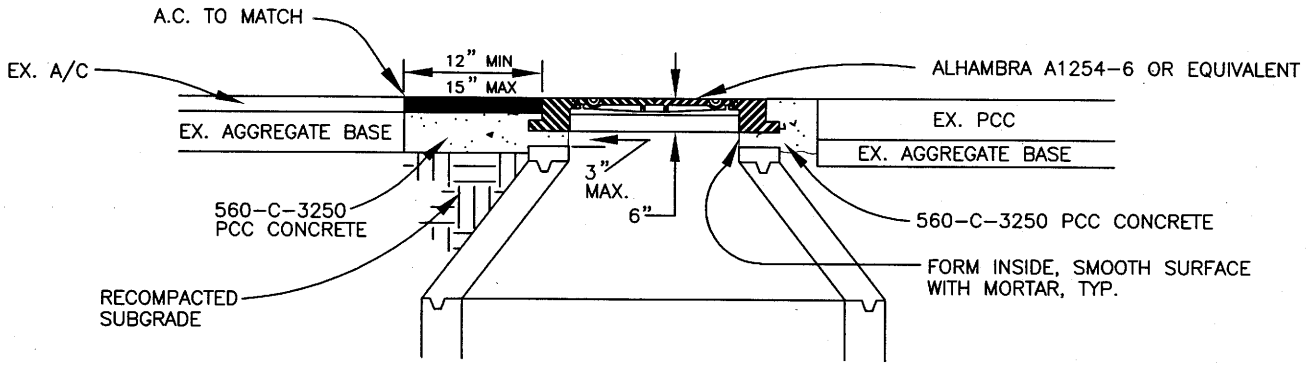
3. Pipe and fittings shall be P.V.C.

4. Concrete for chimney encasement or cradle shall be Class 520-C-2500 per Standard Specifications for Public Works Constructions.

5. Bedding and backfill for laterals shall be the same as for main sewer.

6. Install wire or metallic strip for locating lateral.

REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		Anthony J. Nord (signature), PUBLIC WORKS DIRECTOR — 2/5/07 DATE	CHIMNEY	5-005.0-06



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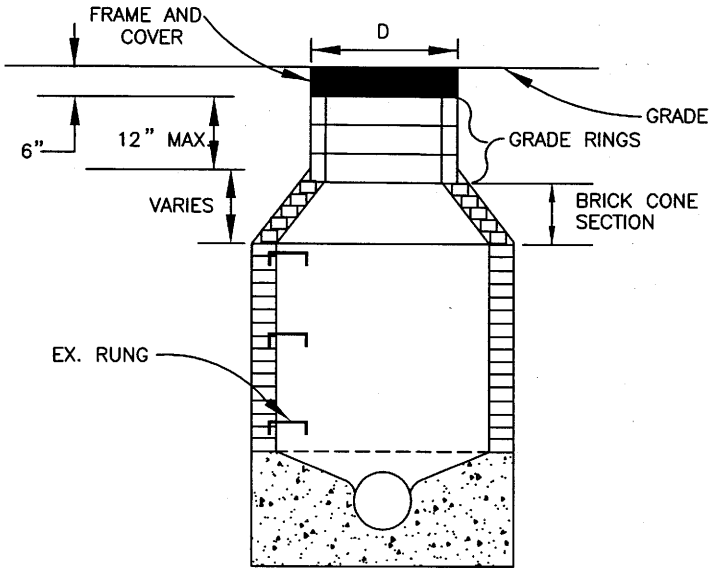
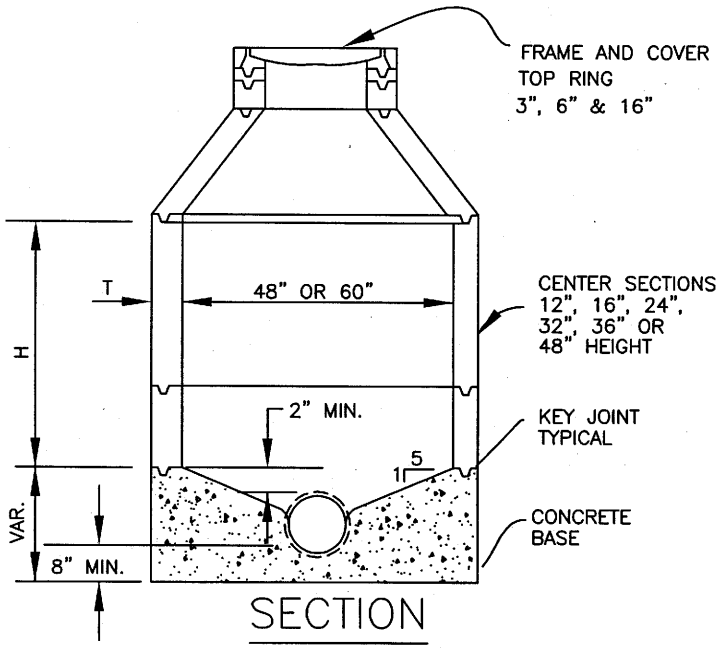


BRICK SEWER MANHOLES



SECTION

PRECAST CONCRETE SEWER MANHOLES

REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE: 2/5/07	SEWER MANHOLE ADJUSTMENT	5-006.0-06

NOTES:

1. GENERAL

A. All concrete shall be 560-C-3250, all mortar shall be Class "D" per section 201.5.1 of the Standard Specifications for Public Works Construction (Green Book).

B. Dimension "D" shall match the diameter of the frame and cover: either 24-inches or 30-inches.

C. Manhole frame and cover shall be manufactured by Alhambra Foundry Company, LTD: A-1254-6 for 24" covers; A-1252 for 30" covers. If existing manhole frame and cover on manholes to be raised are not as specified, the Contractor shall replace the existing frame and cover with a new frame and cover furnished by the City.

D. When required by the Engineer, existing rungs shall be removed to a depth of 2-inch beyond the inside face of the manhole. Existing voids left by the removal of these rungs shall be filled with mortar or a patching cement such as "Water Plug", or equal approved by the Engineer.

E. Whenever precast concrete components are to be placed on any part of an existing brick manhole, these components shall be placed and secured by applying mortar. The depth, width, and thickness of the mortar shall be of sufficient dimensions to properly and adequately join and secure the components.

F. Prior to any work on existing sewer manholes, the Contractor shall place a temporary false bottom inside of the manhole and shall install debris traps in downstream manholes.

G. All manholes, brick or concrete, shall meet the dimensional reauirements shown on Detail 5-006.0, Grade rings shall not exceed a total maximum height of 12-inches.

2. RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES

To raise an existing frame and cover on a precast concrete sewer manhole, use a course of brickwork or concrete, grade rings, or a riser shaft unit.

3. RAISING EXISTING BRICK SEWER MANHOLES

To raise an existing frame and cover on an existing brick sewer manhole, use the method specified for raising a frame and cover on an existing precast sewer manhole, or install a new manhole as directed by the Engineer.

REVISED	DATE	APPROVED		CITY OF SANTA BARBARA - PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		[signature] PUBLIC WORKS DIRECTOR	2/5/07 DATE	SEWER MANHOLE ADJUSTMENT - NOTES	5-006.1-06

NOTES: (CONTINUED)

4. LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES

To lower an existing frame and cover on a precast concrete sewer manhole, remove grade rings and/or riser shaft units. Replace the existing cone with a precast concrete eccentric cone unit if the existing cone is either concentric, deteriorated, or as directed by the Engineer.

5. LOWERING EXISTING BRICK SEWER MANHOLES

To lower an existing frame and cover on a brick sewer manhole, reset the frame and cover on existing bricks with mortar, remove a sufficient amount of bricks to install a precast concrete eccentric cone unit, or install a new sewer manhole as directed by the Engineer.

REVISED	DATE	APPROVED	CITY OF SANTA BARBARA – PUBLIC WORKS DEPARTMENT	STANDARD DETAIL
		PUBLIC WORKS DIRECTOR — DATE: 2/5/07	SEWER MANHOLE ADJUSTMENT – NOTES	5–006.2–06